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Construction panel for glazing structure - has edging strips and flanges normal to glass sheets and strips and joined to form structural support member

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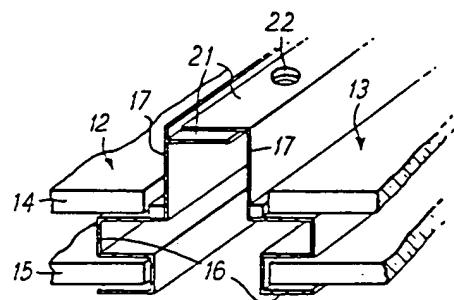
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The glazing structure uses pairs of glazing panels (12, 13) each carrying a sheet of glass and having opposed edges

fixed to edging strips (16). Each edging strip has a flange (17) projecting outwardly of the sheet normal to the plane of the glass.

The flanges of the two panels are joined together to provide a structural support member. The edging

strips of each sheet are parallel with one another. The structure requires no conventional space frame, glazing bars or glazing clips. The edging strips are extruded from an aluminium alloy. 28.11.75 (4pp1057)



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PATENT SPECIFICATION

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(54) IMPROVEMENTS RELATING TO A GLAZING PANEL

(71) We, THE BRITISH ALUMINIUM COMPANY LIMITED, a Company registered under the laws of Great Britain, of Norfolk House, St. James's Square, London SW1Y 4JS, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 This invention relates to glazed structures, for example a glazed greenhouse and to the construction of such structures and panels for forming such structures.

15 Commonly double glazed panels are sold in the form of two spaced sheets of glass integral with edging strips, frequently in the form of aluminium extrusions. A greenhouse or similar structure is made up in the form of a structural space frame to which the glazing panels are attached by glazing bars and glazing clips.

20 According to one aspect of the present invention there is provided a glazing structure comprising two glazing panels each having a sheet of glass with opposed edges fixed to edging strips, each edging strip having a flange projecting outwardly of the sheet normal to the plane of the glass a flange of each panel being joined together in contact to provide a structural support member for the structure.

25 Such a structure eliminates the requirement for a conventional space frame, glazing bars or glazing clips and is clearly quicker and simpler to erect.

30 The invention extends to a method of forming such a glazed structure.

35 Embodiments of glazing panels and connections for forming glazed structures will now be described by way of example only with reference to the accompanying drawings in which:—

40 Figures 1 to 10 show similar views of parts of adjacent edges of a pair of glazing panels arranged to be joined together.

45 In each of Figures 1 to 7 two double glazed panels 12 and 13 are arranged adjacent one another and each comprises two sheets of glass 14 and 15 having opposed

parallel edges fixed to an aluminium or aluminium alloy extruded edging strip 16 which holds the sheets of glass parallel and spaced from one another. In each embodiment the edging strip 16 has an integral flange 17 projecting outwardly normal to the plane of the panel to form a structural flange member. In Figure 1 each edging strip 16 is of box section with an arm 19 extending towards the other panel and carrying the flange 17 which has at its free end a curled over lip member 18 so that the two lips 18 between them define an outwardly opening channel 20 into which a sealant may be applied. The flanges 17 are formed with a series of bolt holes 17a along their lengths, which when the panels are adjacent and aligned as shown correspond with one another so that the flanges can be bolted together in contact to provide a structural member. When so bolted they have sufficient strength to form a structural member of a greenhouse, conservatory or the like so that the conventional space frame and attachment means thereto are not required.

50 In the arrangement of Figure 2 the strips 16 are of squared zig zag form and the flanges 17 are formed at or adjacent their outer ends with arms 21 which project in planes parallel to the panels and when the panels are adjacent one another as shown overlap and contact one another and can be bolted together through corresponding bolt holes 22.

55 The strips 16 of Figure 3 are similar to those of Figure 2 but the flanges 17 of Figure 3 are formed intermediate their lengths with flanges 23 projecting away from one another in planes parallel with the planes of the panels. The flanges are provided with corresponding bolt holes 24 but as seen in Figure 4 the flanges may be connected additionally or alternatively by sliding on a tubular sheath connecting member 25 which also acts as a weather seal.

60 The flanges 17 and lips 18 of Figure 5 are similar to those of Figure 1 but the edging members 16 for the panels are of a form similar to those of Figure 2. The edging

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members 16 of Figure 6 each have two outwardly facing grooves for receiving a sheet of glass and the flanges 17 have turned over ends 26 extending normal thereto and which 5 may be embraced by a weather seal strip (not shown). The edging structure 16 of Figure 7 is similar to that of Figures 3 and 5 while each flange 17 ends with a recessed lip 27 providing between the two lips a channel 28. A sealing compound or mastic 10 may be inserted or bonded to this lip.

Figures 8, 9 and 10 show single glazing panels with structural flanges respectively similar to those of Figures 1, 6 and 7.

15 It will be appreciated that many combinations of structural flange shapes and edging strip shapes may be used and those shown are by way of example only.

20 A thermal barrier can be incorporated according to any one of the conventional methods to prevent conduction of heat along the metal from inside the glazed unit to the exterior.

25 **WHAT WE CLAIM IS:—**

1. A glazing structure comprising two glazing panels each having a sheet of glass with opposed edges fixed to edging strips, each 30 edging strip having a flange projecting outwardly of the sheet normal to the plane of the glass a flange of each panel being joined together in contact to provide a structural support member for the structure.

2. A structure according to Claim 1 in which the edging strips of each sheet are parallel with one another. 35

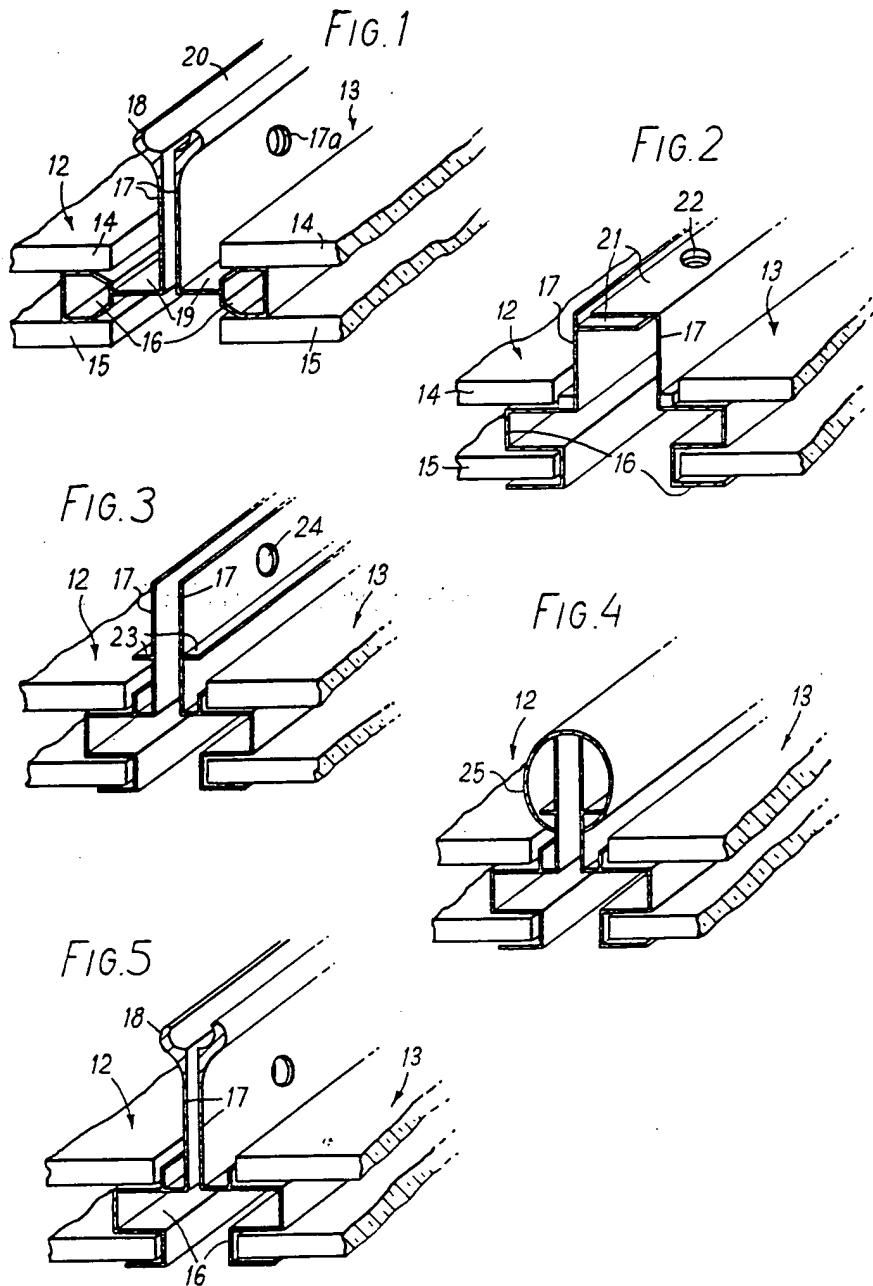
3. A structure according to Claim 1 or 2 in which each panel has two sheets of glass disposed in spaced relationship in parallel planes with the edging strips fixed to both sheets. 40

4. A structure according to any one of the preceding Claims in which the edging strips are extruded from an aluminium alloy.

5. A glazed structure substantially as herein described with reference to Figure 1, or 2, or 3, or 4, or 5, or 6, or 7, or 8, or 9, or 10. 45

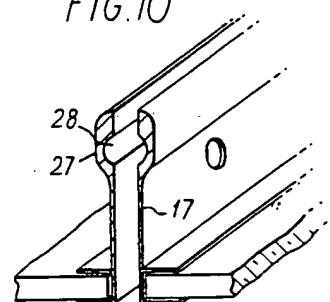
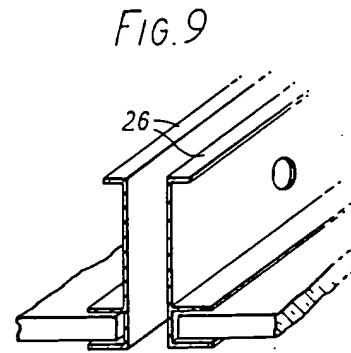
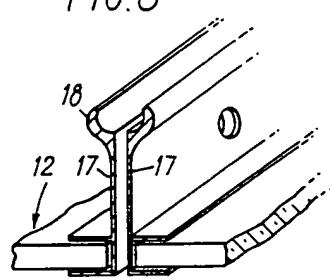
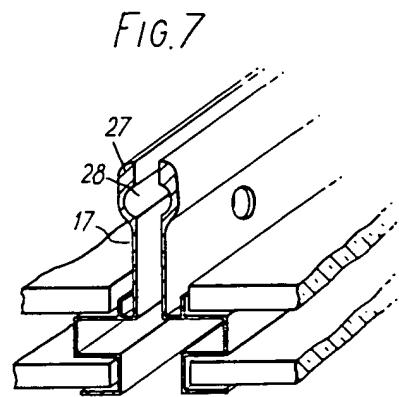
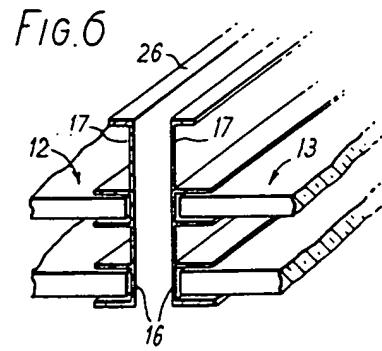
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